OM protein - protein search, using sw model

Run on: January 28, 2005, 13:34:39 ; Search time 196 Seconds
(without alignments)
340.528 Million cell updates/sec

Title: US-10-659-782A-32
Perfect score: 616
Sequence: 1 MPSPGTVCSLLLLGMLWLDL.....PPSSRERSRRSHQPSCSPEL 116

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1825181 seqs, 575374646 residues

Total number of hits satisfying chosen parameters: 1825181

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : UniProt_02:*
1: uniprot_sprot:*
2: uniprot_trembl:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	198	32.1	91	2	Q86YP8	Q86yp8 homo sapien
2	198	32.1	117	1	GHRL_HUMAN	Q9ubu3 homo sapien
3	194	31.5	117	2	Q6UDE7	Q6ude7 macaca mula
4	194	31.5	117	2	AAQ74381	Aaq74381 macaca mu
5	194	31.5	117	2	AAQ74837	Aaq74837 macaca mu
6	166.5	27.0	117	2	Q8CH53	Q8ch53 meriones un
7	164.5	26.7	117	1	GHRL_MOUSE	Q9eqx0 mus musculu
8	162	26.3	86	2	Q811T4	Q811t4 mus musculu
9	162	26.3	116	2	Q863L0	Q863l0 ovis aries
10	162	26.3	117	1	GHRL_CANFA	Q9bef8 canis famil
11	162	26.3	117	2	BAC75929	Bac75929 canis fam
12	159.5	25.9	117	1	GHRL_RAT	Q9qyh7 rattus norv
13	157	25.5	78	2	Q7TSD1	Q7tsd1 mus musculu
14	150.5	24.4	118	1	GHRL_PIG	Q9gky5 sus scrofa
15	148	24.0	116	1	GHRL_BOVIN	Q9bdj6 bos taurus
16	147	23.9	54	2	Q6SLG1	Q6slg1 capra hircu
17	147	23.9	54	2	AAS67351	Aas67351 capra hir
18	146	23.7	54	2	Q6SLF6	Q6slf6 cervus elap
19	146	23.7	54	2	AAS67355	Aas67355 cervus el
20	145	23.5	52	2	Q6SLF9	Q6slf9 odocoileus
21	145	23.5	52	2	AAS67361	Aas67361 odocoileu
22	145	23.5	54	2	Q6SLF2	Q6slf2 odocoileus
23	145	23.5	54	2	Q6SLF8	Q6slf8 rangifer ta
24	145	23.5	54	2	AAS67353	Aas67353 rangifer
25	145	23.5	54	2	AAS67359	Aas67359 odocoileu
26	142	23.1	54	2	Q6SLF4	Q6slf4 alces alces
27	142	23.1	54	2	AAS67357	Aas67357 alces alc
28	135.5	22.0	65	2	Q6TGF0	Q6tgf0 sus scrofa
29	135.5	22.0	65	2	AAQ97622	Aaq97622 sus scrof
30	133	21.6	54	2	Q6SLG3	Q6slg3 ovis aries
31	133	21.6	54	2	AAS67349	Aas67349 ovis arie
32	130	21.1	54	2	Q6SPC2	Q6spc2 bison bison
33	130	21.1	54	2	AAS10495	Aas10495 bison bis
34	122.5	19.9	54	2	Q6SLG5	Q6slg5 kogia brevi
35	122.5	19.9	54	2	Q6SLG7	Q6slg7 bos taurus
36	122.5	19.9	54	2	AAS67345	Aas67345 bos tauru
37	122.5	19.9	54	2	AAS67347	Aas67347 kogia bre
38	118	19.2	97	2	Q863C6	Q863c6 ovis aries
39	101	16.4	35	2	Q6SPC3	Q6spc3 antilocapra
40	101	16.4	35	2	AAS10485	Aas10485 antilocap
41	98.5	16.0	116	2	Q6VMJ7	Q6vmj7 anser sp. (
42	98.5	16.0	116	2	AAQ56122	Aaq56122 anser sp.
43	95	15.4	114	2	Q6F4B4	Q6f4b4 trachemys s
44	95	15.4	124	2	Q6F4B3	Q6f4b3 trachemys s
45	93	15.1	116	2	Q6VMJ5	Q6vmj5 dromaius no

ALIGNMENTS

RESULT 1
Q86YP8
ID Q86YP8 PRELIMINARY; PRT; 91 AA.
AC Q86YP8;
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Exon 3-deleted preproghrelin variant.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RA Jeffery P.L., Herington A.C., Chopin L.K.;
RL Submitted (NOV-2002) to the EMBL/GenBank/DDBJ databases.
DR EMBL; AY184207; AAO27351.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0016608; F:growth hormone-releasing hormone activity; IEA.
DR GO; GO:0050791; P:regulation of physiological process; IEA.
DR InterPro; IPR006738; motilin_ghrelin.
DR InterPro; IPR005441; Preproghrelin.
DR Pfam; PF04644; Motilin_ghrelin; 1.
DR PRINTS; PR01624; GHRELIN.
SQ SEQUENCE 91 AA; 9972 MW; E7E532D32A3F8609 CRC64;

Query Match 32.1%; Score 198; DB 2; Length 91;
Best Local Similarity 88.6%; Pred. No. 1.2e-12;
Matches 39; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQVRPPHKAP 44
              |||||||||||||||||||||||||||||||||||| |   | |
Db          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQQRKESKKP 44
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RESULT 2
GHRL_HUMAN
ID GHRL_HUMAN STANDARD; PRT; 117 AA.
AC Q9UBU3; Q8TAT9; Q9H3R3;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 01-OCT-2004 (Rel. 45, Last annotation update)
DE Ghrelin precursor (Growth hormone secretagogue) (Growth hormone
DE releasing peptide) (Motilin-related peptide) (M46 protein)
DE (UNQ524/PRO1066).
GN Name=GHRL; Synonyms=MTLRP;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM 1), AND ACYLATION OF SER-26.
RX MEDLINE=20067959; PubMed=10604470; DOI=10.1038/45230;
RA Kojima M., Hosoda H., Date Y., Nakazato M., Matsuo H., Kangawa K.;

```
RT   "Ghrelin is a growth-hormone-releasing acylated peptide from
RT   stomach.";
RL   Nature 402:656-660(1999).
RN   [2]
RP   SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
RA   Kojima M.;
RL   Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RC   TISSUE=Stomach;
RA   Tomasetto C., Karam S.M., Rio M.-C.;
RT   "Identification of a novel gastric protein m46.";
RL   Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
RN   [4]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RA   Wajnrajch M.P., Ten I.S., Gertner J.M., Leibel R.L.;
RT   "Genomic organization of the human Ghrelin gene.";
RL   J. Endocr. Genet. 1:231-233(2000).
RN   [5]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RX   MEDLINE=22887296; PubMed=12975309; DOI=10.1101/gr.1293003;
RA   Clark H.F., Gurney A.L., Abaya E., Baker K., Baldwin D., Brush J.,
RA   Chen J., Chow B., Chui C., Crowley C., Currell B., Deuel B., Dowd P.,
RA   Eaton D., Foster J., Grimaldi C., Gu Q., Hass P.E., Heldens S.,
RA   Huang A., Kim H.S., Klimowski L., Jin Y., Johnson S., Lee J.,
RA   Lewis L., Liao D., Mark M., Robbie E., Sanchez C., Schoenfeld J.,
RA   Seshagiri S., Simmons L., Singh J., Smith V., Stinson J., Vagts A.,
RA   Vandlen R., Watanabe C., Wieand D., Woods K., Xie M.-H., Yansura D.,
RA   Yi S., Yu G., Yuan J., Zhang M., Zhang Z., Goddard A., Wood W.I.,
RA   Godowski P., Gray A.;
RT   "The secreted protein discovery initiative (SPDI), a large-scale
RT   effort to identify novel human secreted and transmembrane proteins: a
RT   bioinformatics assessment.";
RL   Genome Res. 13:2265-2270(2003).
RN   [6]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RC   TISSUE=Blood;
RX   MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length human
RT   and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN   [7]
RP   SEQUENCE OF 24-33.
RC   TISSUE=Stomach;
RX   MEDLINE=20389976; PubMed=10930375;
RA   Tomasetto C., Karam S.M., Ribieras S., Masson R., Lefebvre O.,
RA   Staub A., Alexander G., Chenard M.-P., Rio M.-C.;
RT   "Identification and characterization of a novel gastric peptide
RT   hormone: the motilin-related peptide.";
RL   Gastroenterology 119:395-405(2000).
RN   [8]
RP   SEQUENCE OF 24-38.
RA   Zhang Z., Henzel W.;
RT   "Signal peptide prediction based on analysis of experimentally
RT   verified cleavage sites.";
RL   Submitted (JUN-2004) to Swiss-Prot.

RN   [9]
RP   REVIEW.
RX   MEDLINE=21203998; PubMed=11306336; DOI=10.1016/S1043-2760(00)00362-3;
RA   Kojima M., Hosoda H., Matsuo H., Kangawa K.;
RT   "Ghrelin: discovery of the natural endogenous ligand for the growth
RT   hormone secretagogue receptor.";
RL   Trends Endocrinol. Metab. 12:118-122(2001).
CC   -!- FUNCTION: Specific ligand for the growth hormone secretagogue
CC       receptor type 1 (GHSR) inducing the release of growth hormone from
CC       the pituitary. Has an appetite-stimulating effect, induces
CC       adiposity and stimulates gastric acid secretion. Involved in
CC       growth regulation.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=1; Synonyms=Ghrelin;
CC         IsoId=Q9UBU3-1; Sequence=Displayed;
CC       Name=2; Synonyms=del-Gln14-ghrelin;
CC         IsoId=Q9UBU3-2; Sequence=VSP_003245;
CC   -!- PTM: O-n-octanoylation is essential for activity.
CC   -!- SIMILARITY: Belongs to the motilin family.
CC   -!- DATABASE: NAME=Atlas Genet. Cytogenet. Oncol. Haematol.;
CC       WWW="http://www.infobiogen.fr/services/chromcancer/Genes/GhrelinID327.html".
CC   ---------------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------------
DR   EMBL; AB029434; BAA89371.1; -.
DR   EMBL; AB035700; BAB19045.1; -.
DR   EMBL; AJ252278; CAB65733.1; -.
DR   EMBL; AF296558; AAG10300.1; -.
DR   EMBL; AY359053; AAQ89412.1; -.
DR   EMBL; BC025791; AAH25791.1; -.
DR   PIR; A59316; A59316.
DR   MIM; 605353; -.
DR   GO; GO:0005615; C:extracellular space; TAS.
DR   GO; GO:0005625; C:soluble fraction; TAS.
DR   GO; GO:0005131; F:growth hormone receptor binding; TAS.
DR   GO; GO:0007267; P:cell-cell signaling; TAS.
DR   GO; GO:0007186; P:G-protein coupled receptor protein signalin. . .; TAS.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
KW   Alternative splicing; Cleavage on pair of basic residues;
KW   Direct protein sequencing; Hormone; Lipoprotein; Signal.
FT   SIGNAL        1     23
FT   PEPTIDE       24     51       Ghrelin.
FT   PROPEP        52    117       Removed in mature form.
FT   LIPID         26     26       O-octanoyl serine.
FT   VARSPLIC      37     37       Missing (in isoform 2).
FT                                 /FTId=VSP_003245.
FT   CONFLICT      72     72       L -> M (in Ref. 6).
SQ   SEQUENCE   117 AA;  12911 MW;  39C0572EBECA2755 CRC64;

  Query Match             32.1%;  Score 198;  DB 1;  Length 117;
  Best Local Similarity   88.6%;  Pred. No. 1.7e-12;
  Matches   39;  Conservative    0;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQVRPPHKAP 44
              |||||||||||||||||||||||||||||||||||| |   | |
Db          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQQRKESKKP 44


RESULT 3
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Q6UDE7
ID   Q6UDE7      PRELIMINARY;      PRT;   117 AA.
AC   Q6UDE7;
DT   05-JUL-2004 (TrEMBLrel. 27, Created)
DT   05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT   05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE   Ghrelin.
GN   Name=GHRL;
OS   Macaca mulatta (Rhesus macaque).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
OC   Cercopithecinae; Macaca.
OX   NCBI_TaxID=9544;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   PubMed=14736731;
RA   Angeloni S.V., Glynn N., Ambrosini G., Garant M.J., Dee Higley J.,
RA   Suomi S., Hansen B.C.;
RT   "Characterization of the rhesus monkey ghrelin gene and factors
RT   influencing ghrelin gene expression and fasting plasma levels.";
RL   Endocrinology 145:2197-2205(2004).
DR   EMBL; AY372274; AAQ74837.1; -.
DR   EMBL; AY371699; AAQ74381.1; -.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
SQ   SEQUENCE   117 AA;  12913 MW;  1B634ACE1E1F19FF CRC64;

  Query Match             31.5%;  Score 194;  DB 2;  Length 117;
  Best Local Similarity   86.4%;  Pred. No. 4.3e-12;
  Matches   38;  Conservative    0;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQVRPPHKAP 44
              |||||||||||||||||||||||||||||||||| | |   | |
Db          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRAQQRKESKKP 44


RESULT 4
AAQ74381
ID   AAQ74381    PRELIMINARY;      PRT;   117 AA.
AC   AAQ74381;
DT   23-APR-2004 (TrEMBLrel. 27, Created)
DT   23-APR-2004 (TrEMBLrel. 27, Last sequence update)
DT   23-APR-2004 (TrEMBLrel. 27, Last annotation update)
DE   Ghrelin.
GN   GHRL.
OS   Macaca mulatta (Rhesus macaque).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
OC   Cercopithecinae; Macaca.
OX   NCBI_TaxID=9544;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   PubMed=14736731;
RA   Angeloni S.V., Glynn N., Ambrosini G., Garant M.J., Dee Higley J.,
RA   Suomi S., Hansen B.C.;
RT   "Characterization of the rhesus monkey ghrelin gene and factors
RT   influencing ghrelin gene expression and fasting plasma levels.";
RL   Endocrinology 145:2197-2205(2004).
DR   EMBL; AY371699; AAQ74381.1; -.
SQ   SEQUENCE   117 AA;  12913 MW;  1B634ACE1E1F19FF CRC64;

  Query Match             31.5%;  Score 194;  DB 2;  Length 117;
  Best Local Similarity   86.4%;  Pred. No. 4.3e-12;
  Matches   38;  Conservative    0;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQVRPPHKAP 44
              |||||||||||||||||||||||||||||||||| | |   | |
Db          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRAQQRKESKKP 44


RESULT 5
AAQ74837
ID   AAQ74837    PRELIMINARY;      PRT;   117 AA.
AC   AAQ74837;
DT   23-APR-2004 (TrEMBLrel. 27, Created)
DT   23-APR-2004 (TrEMBLrel. 27, Last sequence update)
DT   23-APR-2004 (TrEMBLrel. 27, Last annotation update)
DE   Ghrelin.
GN   GHRL.
OS   Macaca mulatta (Rhesus macaque).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
OC   Cercopithecinae; Macaca.
OX   NCBI_TaxID=9544;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   PubMed=14736731;
RA   Angeloni S.V., Glynn N., Ambrosini G., Garant M.J., Dee Higley J.,
RA   Suomi S., Hansen B.C.;
RT   "Characterization of the rhesus monkey ghrelin gene and factors
RT   influencing ghrelin gene expression and fasting plasma levels.";
RL   Endocrinology 145:2197-2205(2004).
DR   EMBL; AY372274; AAQ74837.1; -.
SQ   SEQUENCE   117 AA;  12913 MW;  1B634ACE1E1F19FF CRC64;

  Query Match             31.5%;  Score 194;  DB 2;  Length 117;
  Best Local Similarity   86.4%;  Pred. No. 4.3e-12;
  Matches   38;  Conservative    0;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQVRPPHKAP 44
              |||||||||||||||||||||||||||||||||| | |   | |
Db          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRAQQRKESKKP 44


RESULT 6
Q8CH53
ID   Q8CH53      PRELIMINARY;      PRT;   117 AA.
AC   Q8CH53;
DT   01-MAR-2003 (TrEMBLrel. 23, Created)
DT   01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Ghrelin preproprotein.
OS   Meriones unguiculatus (Mongolian jird) (Mongolian gerbil).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Gerbillinae;
OC   Meriones.
OX   NCBI_TaxID=10047;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Suzuki H., Ota T., Masaoka T., Miyazawa M., Amagai M., Nishikawa T.,
RA   Ishii H.;
RL   Submitted (NOV-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF442491; AAO06965.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0016608; F:growth hormone-releasing hormone activity; IEA.
DR   GO; GO:0050791; P:regulation of physiological process; IEA.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
SQ   SEQUENCE   117 AA;  13035 MW;  27657687FC026A74 CRC64;

  Query Match             27.0%;  Score 166.5;  DB 2;  Length 117;
  Best Local Similarity   41.0%;  Pred. No. 2.9e-09;
  Matches   43;  Conservative    8;  Mismatches   31;  Indels   23;  Gaps    2;

Qy          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQVRPPHKAPHVVPALPLSNQLCDLE 60
              | | ||:|||||||:||:|:|||||||||||||: | |   | |       |   |   ||
```

```
Db          1 MMSSGTICSLLLLGVLWMDVAMAGSSFLSPEHQKTQQRKESKKP------PAKLQPRALE 54

Qy         61 QQRH----------------WASVFSQSTKDSGSDLTVSGRTWG 88
                |                  : : |    | ||:     ||  |
Db         55 GWLHPDGRGQAEGAEDELEIRFNAPFDVGIKLSGAQYQQHGRALG 99


RESULT 7
GHRL_MOUSE
ID   GHRL_MOUSE     STANDARD;      PRT;   117 AA.
AC   Q9EQX0; Q9WUZ1;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Ghrelin precursor (Growth hormone secretagogue) (Growth hormone
DE   releasing peptide) (Motilin-related peptide) (M46 protein).
GN   Name=Ghrl; Synonyms=Mtlrp;
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A. (ISOFORMS 1 AND 2), AND SEQUENCE OF 24-30.
RC   TISSUE=Stomach;
RX   MEDLINE=20389976; PubMed=10930375;
RA   Tomasetto C., Karam S.M., Ribieras S., Masson R., Lefebvre O.,
RA   Staub A., Alexander G., Chenard M.-P., Rio M.-C.;
RT   "Identification and characterization of a novel gastric peptide
RT   hormone: the motilin-related peptide.";
RL   Gastroenterology 119:395-405(2000).
RN   [2]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RA   Kojima M.;
RT   "Mouse mRNA for preproghrelin.";
RL   Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RA   Tanaka M., Hayashida Y., Iguchi T., Nakao N., Nakai N., Nakashima K.;
RL   Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
RN   [4]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RC   STRAIN=C57BL/6J; TISSUE=Stomach;
RX   MEDLINE=22354683; PubMed=12466851; DOI=10.1038/nature01266;
RA   Okazaki Y., Furuno M., Kasukawa T., Adachi J., Bono H., Kondo S.,
RA   Nikaido I., Osato N., Saito R., Suzuki H., Yamanaka I., Kiyosawa H.,
RA   Yagi K., Tomaru Y., Hasegawa Y., Nogami A., Schonbach C., Gojobori T.,
RA   Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J.,
RA   Schriml L.M., Kanapin A., Matsuda H., Batalov S., Beisel K.W.,
RA   Blake J.A., Bradt D., Brusic V., Chothia C., Corbani L.E., Cousins S.,
RA   Dalla E., Dragani T.A., Fletcher C.F., Forrest A., Frazer K.S.,
RA   Gaasterland T., Gariboldi M., Gissi C., Godzik A., Gough J.,
RA   Grimmond S., Gustincich S., Hirokawa N., Jackson I.J., Jarvis E.D.,
RA   Kanai A., Kawaji H., Kawasawa Y., Kedzierski R.M., King B.L.,
RA   Konagaya A., Kurochkin I.V., Lee Y., Lenhard B., Lyons P.A.,
RA   Maglott D.R., Maltais L., Marchionni L., McKenzie L., Miki H.,
RA   Nagashima T., Numata K., Okido T., Pavan W.J., Pertea G., Pesole G.,
RA   Petrovsky N., Pillai R., Pontius J.U., Qi D., Ramachandran S.,
RA   Ravasi T., Reed J.C., Reed D.J., Reid J., Ring B.Z., Ringwald M.,
RA   Sandelin A., Schneider C., Semple C.A., Setou M., Shimada K.,
RA   Sultana R., Takenaka Y., Taylor M.S., Teasdale R.D., Tomita M.,
RA   Verardo R., Wagner L., Wahlestedt C., Wang Y., Watanabe Y., Wells C.,
RA   Wilming L.G., Wynshaw-Boris A., Yanagisawa M., Yang I., Yang L.,
RA   Yuan Z., Zavolan M., Zhu Y., Zimmer A., Carninci P., Hayatsu N.,
RA   Hirozane-Kishikawa T., Konno H., Nakamura M., Sakazume N., Sato K.,
RA   Shiraki T., Waki K., Kawai J., Aizawa K., Arakawa T., Fukuda S.,
RA   Hara A., Hashizume W., Imotani K., Ishii Y., Itoh M., Kagawa I.,
RA   Miyazaki A., Sakai K., Sasaki D., Shibata K., Shinagawa A.,
RA   Yasunishi A., Yoshino M., Waterston R., Lander E.S., Rogers J.,
RA   Birney E., Hayashizaki Y.;
RT   "Analysis of the mouse transcriptome based on functional annotation of
RT   60,770 full-length cDNAs.";
RL   Nature 420:563-573(2002).
RN   [5]
RP   REVIEW.
RX   MEDLINE=21203998; PubMed=11306336; DOI=10.1016/S1043-2760(00)00362-3;
RA   Kojima M., Hosoda H., Matsuo H., Kangawa K.;
RT   "Ghrelin: discovery of the natural endogenous ligand for the growth
RT   hormone secretagogue receptor.";
RL   Trends Endocrinol. Metab. 12:118-122(2001).
CC   -!- FUNCTION: Specific ligand for the growth hormone secretagogue
CC       receptor type 1 (GHSR) inducing the release of growth hormone from
CC       the pituitary. Has an appetite-stimulating effect, induces
CC       adiposity and stimulates gastric acid secretion. Involved in
CC       growth regulation.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=1; Synonyms=Ghrelin;
CC         IsoId=Q9EQX0-1; Sequence=Displayed;
CC       Name=2; Synonyms=del-Gln14-ghrelin;
CC         IsoId=Q9EQX0-2; Sequence=VSP_003246;
CC   -!- TISSUE SPECIFICITY: Mainly expressed in the gastrointestinal tract
CC       with higher levels in the stomach, medium levels in the duodenum,
CC       jejunum, ileum and colon. Low expression in the testis and brain.
CC       Not detected in the salivary gland, pancreas, liver and lung.
CC   -!- PTM: O-n-octanoylation is essential for activity (By similarity).
CC   -!- SIMILARITY: Belongs to the motilin family.
CC   ---------------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------------
DR   EMBL; AJ243503; CAB46500.1; -.
DR   EMBL; AB035701; BAB19046.1; -.
DR   EMBL; AB060078; BAB69857.1; -.
DR   EMBL; AK008658; BAB25814.1; -.
DR   EMBL; AK008860; BAB25934.1; -.
DR   MGD; MGI:1930008; Ghrl.
DR   GO; GO:0005737; C:cytoplasm; IDA.
DR   GO; GO:0005576; C:extracellular; IDA.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
KW   Alternative splicing; Cleavage on pair of basic residues;
KW   Direct protein sequencing; Hormone; Lipoprotein; Signal.
FT   SIGNAL        1     23
FT   PEPTIDE      24     51       Ghrelin.
FT   PROPEP       52    117       Removed in mature form (By similarity).
FT   LIPID        26     26       O-octanoyl serine (By similarity).
FT   VARSPLIC     37     37       Missing (in isoform 2).
FT                                /FTId=VSP_003246.
SQ   SEQUENCE   117 AA;  13207 MW;  EACB49D2E3CA7203 CRC64;

  Query Match             26.7%;  Score 164.5;  DB 1;  Length 117;
  Best Local Similarity   41.0%;  Pred. No. 4.7e-09;
  Matches   43;  Conservative    7;  Mismatches   32;  Indels   23;  Gaps    2;

Qy          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQVRPPHKAPHVVPALPLSNQLCDLE 60
              | | ||:|||||| |||:|:|||||||||||||: | |   | |     | |   ||
Db          1 MLSSGTICSLLLLSMLWMDMAMAGSSFLSPEHQKAQQRKESKKP------PAKLQPRALE 54

Qy         61 QQRH----------------WASVFSQSTKDSGSDLTVSGRTWG 88
                |                  : : |    | ||:     ||  |
Db         55 GWLHPEDRGQAEETEEELEIRFNAPFDVGIKLSGAQYQQHGRALG 99


RESULT 8
Q811T4
```

```
ID   Q811T4      PRELIMINARY;      PRT;    86 AA.
AC   Q811T4;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE   Exon 4-deleted preproghrelin variant.
GN   Name=Ghrl;
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Swiss;
RA   Jeffery P.L., Herington A.C., Chopin L.K.;
RL   Submitted (NOV-2002) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AY179430; AAO27350.1; -.
DR   MGD; MGI:1930008; Ghrl.
DR   GO; GO:0005737; C:cytoplasm; IDA.
DR   GO; GO:0005576; C:extracellular; IDA.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
SQ   SEQUENCE   86 AA;  9758 MW;  B913858874770512 CRC64;

  Query Match             26.3%;  Score 162;  DB 2;  Length 86;
  Best Local Similarity   70.5%;  Pred. No. 6e-09;
  Matches   31;  Conservative    4;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQVRPPHKAP 44
              | | ||:|||||| |||:|:|||||||||||||: | |   | |
Db          1 MLSSGTICSLLLLSMLWMDMAMAGSSFLSPEHQKAQQRKESKKP 44


RESULT 9
Q863L0
ID   Q863L0      PRELIMINARY;      PRT;   116 AA.
AC   Q863L0;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Preproghrelin precursor.
OS   Ovis aries (Sheep).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC   Caprinae; Ovis.
OX   NCBI_TaxID=9940;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Stomach;
RA   Doi K., Kojima M., Hosoda H., Kaiya H., Matsuo H., Kangawa K.;
RL   Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AB060699; BAC75928.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0016608; F:growth hormone-releasing hormone activity; IEA.
DR   GO; GO:0050791; P:regulation of physiological process; IEA.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
KW   Signal.
FT   SIGNAL       1     23       Potential.
FT   CHAIN       24     50       ghrelin.
SQ   SEQUENCE   116 AA;  12977 MW;  B78ECA3DBF0E568E CRC64;

  Query Match             26.3%;  Score 162;  DB 2;  Length 116;
  Best Local Similarity   39.8%;  Pred. No. 8.5e-09;
  Matches   39;  Conservative   15;  Mismatches   34;  Indels   10;  Gaps    1;

Qy          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQVRPPHKAPHVVPALPLSNQL---- 56
              ||:| |: ||||| :||:|||||||||||||||::| : | |    :    | |
Db          1 MPAPRTIYSLLLLSLLWMDLAMAGSSFLSPEHQKLQRKEPKKPSGRLKPRALEGQFDPDV 60

Qy         57 ------CDLEQQRHWASVFSQSTKDSGSDLTVSGRTWG 88
                    : | :  : : |:   | ||:     |:| |
Db         61 GSQEEGAEDELEIRFNAPFNIGIKLSGAQSLQHGQTLG 98


RESULT 10
GHRL_CANFA
ID   GHRL_CANFA     STANDARD;      PRT;   117 AA.
AC   Q9BEF8; Q9BEF7;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Ghrelin precursor (Growth hormone secretagogue) (Growth hormone
DE   releasing peptide) (Motilin-related peptide).
GN   Name=GHRL; Synonyms=MTLRP;
OS   Canis familiaris (Dog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX   NCBI_TaxID=9615;
RN   [1]
RP   SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
RC   TISSUE=Gastric fundus;
RA   Tomasetto C., Wendling C., Rio M.-C., Poitras P.;
RT   "Identification of cDNA encoding MTLRP/ghrelin precursor from dog
RT   fundus.";
RL   Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Specific ligand for the growth hormone secretagogue
CC       receptor type 1 (GHSR) inducing the release of growth hormone from
CC       the pituitary. Has an appetite-stimulating effect, induces
CC       adiposity and stimulates gastric acid secretion. Involved in
CC       growth regulation (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=1; Synonyms=Ghrelin;
CC         IsoId=Q9BEF8-1; Sequence=Displayed;
CC       Name=2; Synonyms=del-Gln14-ghrelin;
CC         IsoId=Q9BEF8-2; Sequence=VSP_003244;
CC   -!- PTM: O-n-octanoylation is essential for activity (By similarity).
CC   -!- SIMILARITY: Belongs to the motilin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AJ298295; CAC29155.1; -.
DR   EMBL; AJ298296; CAC29156.1; -.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
KW   Alternative splicing; Cleavage on pair of basic residues; Hormone;
KW   Lipoprotein; Signal.
FT   SIGNAL       1     23       By similarity.
FT   PEPTIDE     24     51       Ghrelin (By similarity).
FT   PROPEP      52    117       Removed in mature form (By similarity).
FT   LIPID       26     26       O-octanoyl serine (By similarity).
FT   VARSPLIC    37     37       Missing (in isoform 2).
FT                               /FTId=VSP_003244.
SQ   SEQUENCE   117 AA;  13007 MW;  3E57FED9D1847CF7 CRC64;

  Query Match             26.3%;  Score 162;  DB 1;  Length 117;
```

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  Best Local Similarity   70.5%;  Pred. No. 8.5e-09;
  Matches   31;  Conservative    5;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQVRPPHKAP 44
              ||| ||:|||||  :||:||||||||||||::| |   | |
Db          1 MPSLGTMCSLLLFSVLWVDLAMAGSSFLSPEHQKLQQRKESKKP 44


RESULT 11
BAC75929
ID   BAC75929    PRELIMINARY;      PRT;   117 AA.
AC   BAC75929;
DT   02-MAR-2004 (TrEMBLrel. 27, Created)
DT   02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
DT   02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
DE   Preproghrelin precursor.
OS   Canis familiaris (Dog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX   NCBI_TaxID=9615;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Stomach;
RA   Doi K., Kojima M., Hosoda H., Kaiya H., Matsuo H., Kangawa K.;
RT   "dog ghrelin.";
RL   Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AB060700; BAC75929.1; -.
KW   Signal.
FT   SIGNAL        1     23       Potential.
FT   CHAIN        24     51       ghrelin.
SQ   SEQUENCE   117 AA;  13007 MW;  3E57FED9D1847CF7 CRC64;

  Query Match             26.3%;  Score 162;  DB 2;  Length 117;
  Best Local Similarity   70.5%;  Pred. No. 8.5e-09;
  Matches   31;  Conservative    5;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQVRPPHKAP 44
              ||| ||:|||||  :||:||||||||||||::| |   | |
Db          1 MPSLGTMCSLLLFSVLWVDLAMAGSSFLSPEHQKLQQRKESKKP 44


RESULT 12
GHRL_RAT
ID   GHRL_RAT       STANDARD;      PRT;   117 AA.
AC   Q9QYH7; Q9ET69;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Ghrelin precursor (Growth hormone secretagogue) (Growth hormone
DE   releasing peptide).
GN   Name=Ghrl;
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A. (ISOFORM 1), SEQUENCE OF 24-51, MASS SPECTROMETRY,
RP   AND ACYLATION OF SER-26.
RC   STRAIN=Sprague-Dawley; TISSUE=Stomach;
RX   MEDLINE=20067959; PubMed=10604470; DOI=10.1038/45230;
RA   Kojima M., Hosoda H., Date Y., Nakazato M., Matsuo H., Kangawa K.;
RT   "Ghrelin is a growth-hormone-releasing acylated peptide from
RT   stomach.";
RL   Nature 402:656-660(1999).
RN   [2]
RP   SEQUENCE FROM N.A. (ISOFORMS 1 AND 2), SEQUENCE OF 24-51, MASS
RP   SPECTROMETRY, AND ACYLATION OF SER-26.
RC   STRAIN=Sprague-Dawley; TISSUE=Stomach;
RX   MEDLINE=20357315; PubMed=10801861; DOI=10.1074/jbc.M002784200;
RA   Hosoda H., Kojima M., Matsuo H., Kangawa K.;
RT   "Purification and characterization of rat des-Gln14-ghrelin, a second
RT   endogenous ligand for the growth hormone secretagogue receptor.";
RL   J. Biol. Chem. 275:21995-22000(2000).
RN   [3]
RP   CHARACTERIZATION.
RX   MEDLINE=21092536; PubMed=11162448; DOI=10.1006/bbrc.2000.4039;
RA   Hosoda H., Kojima M., Matsuo H., Kangawa K.;
RT   "Ghrelin and des-acyl ghrelin: two major forms of rat ghrelin peptide
RT   in gastrointestinal tissue.";
RL   Biochem. Biophys. Res. Commun. 279:909-913(2000).
RN   [4]
RP   STRUCTURE-ACTIVITY RELATIONSHIP.
RX   MEDLINE=21433488; PubMed=11549267; DOI=10.1006/bbrc.2001.5553;
RA   Matsumoto M., Hosoda H., Kitajima Y., Morozumi N., Minamitake Y.,
RA   Tanaka S., Matsuo H., Kojima M., Hayashi Y., Kangawa K.;
RT   "Structure-activity relationship of ghrelin: pharmacological study of
RT   ghrelin peptides.";
RL   Biochem. Biophys. Res. Commun. 287:142-146(2001).
RN   [5]
RP   REVIEW.
RX   MEDLINE=21203998; PubMed=11306336; DOI=10.1016/S1043-2760(00)00362-3;
RA   Kojima M., Hosoda H., Matsuo H., Kangawa K.;
RT   "Ghrelin: discovery of the natural endogenous ligand for the growth
RT   hormone secretagogue receptor.";
RL   Trends Endocrinol. Metab. 12:118-122(2001).
CC   -!- FUNCTION: Specific ligand for the growth hormone secretagogue
CC       receptor type 1 (GHSR) inducing the release of growth hormone from
CC       the pituitary. Has an appetite-stimulating effect, induces
CC       adiposity and stimulates gastric acid secretion. Involved in
CC       growth regulation.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=1; Synonyms=Ghrelin;
CC         IsoId=Q9QYH7-1; Sequence=Displayed;
CC       Name=2; Synonyms=del-Gln14-ghrelin;
CC         IsoId=Q9QYH7-2; Sequence=VSP_003248;
CC   -!- TISSUE SPECIFICITY: Broadly expressed with higher expression in
CC       the stomach. Very low levels are detected in the hypothalamus,
CC       heart, lung, pancreas, intestine and adipose tissue.
CC   -!- PTM: O-n-octanoylation is essential for activity. The replacement
CC       of Ser-26 by aromatic tryptophan preserves ghrelin activity.
CC   -!- MASS SPECTROMETRY: MW=3314.9; MW_ERR=0.7; METHOD=Electrospray;
CC       RANGE=24-51 (Q9QYH7-1); NOTE=Ref.1.
CC   -!- MASS SPECTROMETRY: MW=3187.1; MW_ERR=0.6; METHOD=Electrospray;
CC       RANGE=24-50 (Q9QYH7-2); NOTE=Ref.2.
CC   -!- SIMILARITY: Belongs to the motilin family.
CC   ----------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; AB029433; BAA89370.1; -.
DR   EMBL; AB035699; BAB11956.1; -.
DR   PIR; B59316; B59316.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
KW   Alternative splicing; Cleavage on pair of basic residues;
KW   Direct protein sequencing; Hormone; Lipoprotein; Signal.
FT   SIGNAL        1     23
FT   PEPTIDE      24     51       Ghrelin.
FT   PROPEP       52    117       Removed in mature form.
FT   LIPID        26     26       O-octanoyl serine.
FT   VARSPLIC     37     37       Missing (in isoform 2).
FT                                /FTId=VSP_003248.
SQ   SEQUENCE   117 AA;  13176 MW;  8857546FE51A7691 CRC64;
```

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  Query Match             25.9%;  Score 159.5;  DB 1;  Length 117;
  Best Local Similarity   40.0%;  Pred. No. 1.5e-08;
  Matches   42;  Conservative    7;  Mismatches   33;  Indels   23;  Gaps    2;

Qy          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQVRPPHKAPHVVPALPLSNQLCDLE 60
              | |  |:|||||| |||:|:|||||||||||||: | |   | |      |   |   ||
Db          1 MVSSATICSLLLLSMLWMDMAMAGSSFLSPEHQKAQQRKESKKP------PAKLQPRALE 54

Qy         61 QQRH-----------------WASVFSQSTKDSGSDLTVSGRTWG 88
                 |                 : : |    | ||:     ||  |
Db         55 GWLHPEDRGQAEEAEEELEIRFNAPFDVGIKLSGAQYQQHGRALG 99


RESULT 13
Q7TSD1
ID   Q7TSD1      PRELIMINARY;      PRT;    78 AA.
AC   Q7TSD1;
DT   01-OCT-2003 (TrEMBLrel. 25, Created)
DT   01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
DT   01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE   Ghrelin delta2.
GN   Name=Ghrelin;
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Hisatomi H., Nagao K., Hirata H., Kawano K., Hibi N.;
RL   Submitted (JUN-2003) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AB111891; BAC77409.1; -.
DR   GO; GO:0005737; C:cytoplasm; IDA.
DR   GO; GO:0005576; C:extracellular; IDA.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR005441; Preproghrelin.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   ProDom; PD332162; Preproghrelin; 1.
SQ   SEQUENCE   78 AA;  8615 MW;  AD87CB53C9A22FFB CRC64;

  Query Match             25.5%;  Score 157;  DB 2;  Length 78;
  Best Local Similarity   40.9%;  Pred. No. 1.8e-08;
  Matches   36;  Conservative    5;  Mismatches   19;  Indels   28;  Gaps    1;

Qy          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQVRPPHKAPHVVPALPLSNQLCDLE 60
              | | ||:|||||| |||:|:|||||||||||||: |   |
Db          1 MLSSGTICSLLLLSMLWMDMAMAGSSFLSPEHQKAQFNAP-------------------- 40

Qy         61 QQRHWASVFSQSTKDSGSDLTVSGRTWG 88
                    |    | ||:     ||  |
Db         41 --------FDVGIKLSGAQYQQHGRALG 60


RESULT 14
GHRL_PIG
ID   GHRL_PIG      STANDARD;      PRT;   118 AA.
AC   Q9GKY5; Q9BDG8; Q9GKY4;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Ghrelin precursor (Growth hormone secretagogue) (Growth hormone
DE   releasing peptide).
GN   Name=GHRL;
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
RA   Kojima M.;
RL   Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
RC   TISSUE=Stomach;
RA   Rousselle J., Lacroix D., Dubreuil P.;
RL   Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Specific ligand for the growth hormone secretagogue
CC       receptor type 1 (GHSR) inducing the release of growth hormone from
CC       the pituitary. Has an appetite-stimulating effect, induces
CC       adiposity and stimulates gastric acid secretion. Involved in
CC       growth regulation (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=1; Synonyms=Ghrelin;
CC         IsoId=Q9GKY5-1; Sequence=Displayed;
CC       Name=2; Synonyms=del-Gln14-ghrelin;
CC         IsoId=Q9GKY5-2; Sequence=VSP_003247;
CC   -!- PTM: O-n-octanoylation is essential for activity (By similarity).
CC   -!- SIMILARITY: Belongs to the motilin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AB035703; BAB19048.1; -.
DR   EMBL; AB035704; BAB19049.1; -.
DR   EMBL; AF308930; AAK19243.1; -.
DR   EMBL; AY028942; AAK30002.1; -.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
KW   Alternative splicing; Cleavage on pair of basic residues; Hormone;
KW   Lipoprotein; Signal.
FT   SIGNAL        1     24       By similarity.
FT   PEPTIDE      25     52       Ghrelin.
FT   PROPEP       53    118       Removed in mature form (By similarity).
FT   LIPID        27     27       O-octanoyl serine (By similarity).
FT   VARSPLIC     38     38       Missing (in isoform 2).
FT                                /FTId=VSP_003247.
FT   CONFLICT     17     17       L -> P (in Ref. 2; AAK30002).
FT   CONFLICT     72     72       K -> E (in Ref. 2; AAK30002).
SQ   SEQUENCE   118 AA;  12785 MW;  856D3E1D6DAB1A76 CRC64;

  Query Match             24.4%;  Score 150.5;  DB 1;  Length 118;
  Best Local Similarity   71.1%;  Pred. No. 1.3e-07;
  Matches   32;  Conservative    4;  Mismatches    8;  Indels    1;  Gaps    1;

Qy          1 MPSPGTVCSLLLLGMLWL-DLAMAGSSFLSPEHQRVQVRPPHKAP 44
              ||| ||:|||||| :| : |||||||||||||||:|| |   | |
Db          1 MPSTGTICSLLLLSVLLMADLAMAGSSFLSPEHQKVQQRKESKKP 45


RESULT 15
GHRL_BOVIN
ID   GHRL_BOVIN      STANDARD;      PRT;   116 AA.
AC   Q9BDJ6; Q9GKY6;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Ghrelin precursor (Growth hormone secretagogue) (Growth hormone
DE   releasing peptide).
GN   Name=GHRL;
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC   Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
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RP   SEQUENCE FROM N.A.
RA   Kita K., Harada K., Yokota H.;
RL   Submitted (FEB-2001) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE OF 24-99 FROM N.A.
RA   Kojima M.;
RL   Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Specific ligand for the growth hormone secretagogue
CC       receptor type 1 (GHSR) inducing the release of growth hormone from
CC       the pituitary. Has an appetite-stimulating effect, induces
CC       adiposity and stimulates gastric acid secretion. Involved in
CC       growth regulation (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
CC   -!- PTM: O-n-octanoylation is essential for activity (By similarity).
CC   -!- SIMILARITY: Belongs to the motilin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AF350329; AAK18612.1; -.
DR   EMBL; AB035702; BAB19047.1; -.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
KW   Cleavage on pair of basic residues; Hormone; Lipoprotein; Signal.
FT   SIGNAL       1     23       By similarity.
FT   PEPTIDE      24    50       Ghrelin (By similarity).
FT   PROPEP       51    116      Removed in mature form (By similarity).
FT   LIPID        26    26       O-octanoyl serine (By similarity).
FT   CONFLICT     34    34       K -> E (in Ref. 2).
SQ   SEQUENCE   116 AA;  12792 MW;  F55536DAC5FA59B6 CRC64;

  Query Match             24.0%;  Score 148;  DB 1;  Length 116;
  Best Local Similarity   37.8%;  Pred. No. 2.3e-07;
  Matches   37;  Conservative   16;  Mismatches   35;  Indels   10;  Gaps    1;

Qy          1 MPSPGTVCSLLLLGMLWLDLAMAGSSFLSPEHQRVQVRPPHKAPHVVPALPLSNQL---- 56
              ||:| |:|||||| :| :|||||||||||||::| :   |    :    | |
Db          1 MPAPWTICSLLLLSVLCMDLAMAGSSFLSPEHQKLQRKEAKKPSGRLKPRTLEGQFDPEV 60

Qy         57 ------CDLEQQRHWASVFSQSTKDSGSDLTVSGRTWG 88
                    : | :  : : |:   | :|:     |:| |
Db         61 GSQAEGAEDELEIRFNAPFNIGIKLAGAQSLQHGQTLG 98


Search completed: January 28, 2005, 13:56:49
Job time : 198 secs
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